

# BLUEPRINT

CALIFORNIA ENERGY COMMISSION  
EFFICIENCY DIVISION

## IN THIS ISSUE

- 2019 Energy Code Training
- New Videos for Nonresidential HVAC Prescriptive Requirements
- Whole House Fan Compliance for Low-rise Residential Buildings
- Q&A
  - Townhouses vs. Duplexes
- Energy Code Ace Class Schedule

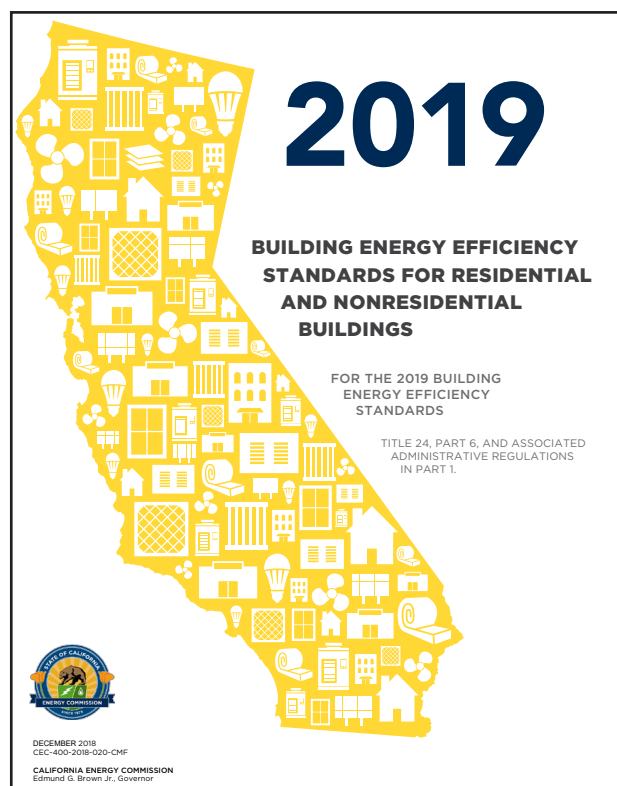
## 2019 ENERGY CODE TRAINING

Do you want to learn more about the *2019 Building Energy Efficiency Standards* (Energy Code)? The California Energy Commission's Building Standards Outreach and Education (O&E) Unit is available to provide training at no charge. The O&E Unit can provide sessions that range from one-hour general or topic specific presentations, to full-day sessions. We are an International Code Council (ICC) Preferred Provider, and can offer continuing education units for attendees. If you would like to schedule a training session at your location, email [Title24@energy.ca.gov](mailto:Title24@energy.ca.gov).

Are you looking for a webinar training to attend online? Consider the training options from our partner Energy Code Ace or a training offered by one of your local utilities. No matter which training option you choose, we want to make sure you are getting the information you need for the upcoming 2019 Energy Code.

The 2019 Energy Code documents are available **here**.

**Subscribe** to the Blueprint Newsletter for more information on the upcoming 2019 Energy Code requirements.



## NEW VIDEOS FOR NONRESIDENTIAL HVAC PRESCRIPTIVE REQUIREMENTS

New educational videos are now available on the Online Resource Center (ORC). These videos provide an overview of the 2016 Energy Code prescriptive requirements for HVAC systems in nonresidential, high-rise residential, hotel and motel buildings. To view the videos listed below, please visit the **ORC**.

### *Prescriptive Requirements for Nonresidential Space Conditioning Systems*

- » Course 2A: Prescriptive Approach Overview
- » Course 2BC: Size, Equipment Selection and Calculations
- » Course 2D: Power Consumption of Fans
- » Course 2EFN: Space Conditioning Systems Controls
- » Course 2G: Electric Resistance Heating
- » Course 2H: Heat Rejection Systems
- » Course 2IJ: Water Chillers
- » Course 2K: Hydronic System Measures
- » Course 2L: Air Distribution Duct Leakage Sealing
- » Course 2M: Fan Control
- » Course 2O: Economizers
- » Course 2P: Performance Approach Overview
- » Course 2Q: Additions and Alterations

## WHOLE HOUSE FAN COMPLIANCE FOR LOW-RISE RESIDENTIAL BUILDINGS

Installing and using a whole house fan (WHF) can be an effective way to cool a home through ventilation cooling. Ventilation cooling uses high volumes of outdoor air to cool the indoor space instead of air conditioning. **Section 150.1(c)12** of the 2016 Energy Code covers the prescriptive requirements for ventilation cooling. It requires the installation of a WHF in newly constructed single-family buildings in climate zones 8 through 14. These prescriptive requirements also apply to additions with greater than 1,000 ft<sup>2</sup> of conditioned floor area (CFA) to existing single-family buildings within the same climate zones.

To comply with the 2016 Energy Code, the following criteria for WHF installations must be met:

- Provide at least 1.5 cubic feet per minute (CFM) of air flow for each square foot of CFA by one or more WHFs; and
- Provide at least 1 ft<sup>2</sup> of attic vent free area for each 750 CFM of WHF air flow, or the manufacturer's specified attic vent free area, whichever is greater; and
- Provide the homeowner a one-page "How to Operate Your Whole House Fan" informational sheet; and
- WHFs must be listed in the Energy Commission's **Modernized Appliance Efficiency Database System (MAEDbS)**.

For more information on these requirements, see **Section 4.7.10** of the 2016 Residential Compliance Manual.

Additionally, only the rated airflow values listed in the MAEDbS should be used to demonstrate WHF compliance. These values are determined by the test procedures in the Home Ventilating Institute's Publication 916 (HVI-916) in accordance with the requirements of Title 20, California Code of Regulations, **Section 1604(d)**, Table D-3.

Enforcement agencies can compare documented values on the Certificate of Installation form (CF2R-MCH-02-E) with those listed in MAEDbS to verify compliance. For assistance with searching MAEDbS, contact the Title 20 Compliance Assistance Call Center at (888) 838-1467 or e-mail [appliances@energy.ca.gov](mailto:appliances@energy.ca.gov).



# Q&A

## TOWNHOUSES VS. DUPLEXES

**Is there any difference in classification between a duplex with stacked dwelling units and a duplex with side-by-side dwelling units in the 2016 Energy Code?**

No. The Energy Code classifies all group R-3 occupancy buildings with any number of stories, including duplexes, as low-rise residential. The 2016 California Building Code (Title 24, Part 2) classifies buildings that do not contain more than two dwelling units as a group R-3 occupancy. The enforcement agency has the final authority on classifying the occupancy for all buildings.

**Since a townhouse has shared walls and no shared ceilings or floors, are side-by-side duplexes also considered townhouses?**

No. A duplex is not considered a townhouse. The 2016 Energy Code defines townhouses as having three or more attached dwelling units. Duplexes are only two units, which can be either stacked or side-by-side, while townhouses are only side-by-side.

**Are all duplex buildings, regardless of the configuration or the number of habitable stories, modeled as two separate single-family low-rise buildings?**

Yes. All duplexes are modeled as two separate single-family buildings using Energy Commission approved compliance software for residential buildings. For more on how to model low-rise residential buildings, see the CBECC-Res **2016 User Manual**.

**Are low-rise residential townhouse dwelling units modeled as individual single-family buildings?**

Yes. Low-rise residential townhouses are modeled as individual single-family units. For more on modeling low-rise residential buildings, see the CBECC-Res **2016 User Manual**.

**Are high-rise residential townhouse buildings modeled as multi-family buildings?**

Yes. High-rise residential townhouses are modeled as one multi-family building using Energy Commission approved compliance software for nonresidential buildings. For more on how to model high-rise residential buildings, see the CBECC-Com **2016 User Manual**.

## FOR MORE INFORMATION

Online Resource Center:  
<https://www.energy.ca.gov/title24/orc/>

Home Energy Rating System:  
<http://www.energy.ca.gov/HERS/>

Acceptance Test Technician  
Certification Provider Program:  
<http://www.energy.ca.gov/title24/attcp/>

Approved Compliance Software:  
[http://www.energy.ca.gov/title24/2016standards/2016\\_computer\\_prog\\_list.html](http://www.energy.ca.gov/title24/2016standards/2016_computer_prog_list.html)

The Energy Commission welcomes your feedback on Blueprint. Please contact the editor at: [Title24@energy.ca.gov](mailto:Title24@energy.ca.gov)

## EDITOR

Amie Brousseau

## SPECIAL THANKS

- Chris Olvera
- Christopher Meyer
- David Ismailyan
- Javier Perez
- Kelly Moriarty
- Payam Bozorgchami
- Peter Strait
- Todd Ferris

## Need Help? Energy Standards Hotline

(800) 772-3300 (toll-free in CA)  
[Title24@energy.ca.gov](mailto:Title24@energy.ca.gov)

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CEC-400-2019-004

*Commissioners*  
**Karen Douglas**  
**Andrew McAllister**

**Building Standards Office**  
1516 Ninth St, MS-37  
Sacramento, CA 95814-5512  
(916) 654-4147



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The California  
Statewide Codes & Stan-  
dards Program

Here to help you meet  
the requirements of  
Title 24, Part 6 and  
Title 20

We offer NO-COST

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- Resources

All designed to  
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savings.

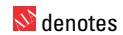
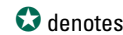


**EnergyCodeAce.com**

Classes added  
frequently. Please check  
**EnergyCodeAce.com/  
training**  
for all our up-to-date  
offerings



Unless otherwise noted, all Title 24, Part 6 courses are on the 2016 code.



DATE • TIME	LOCATION	INSTRUCTOR	REGISTRATION
<b>Residential Standards for Plans Examiners and Building Inspectors</b> ★			
February 19 • 8:30 - 4:30	Glendale	Bruce Cheney	sce.com/energycenters
February 28 • 8:30 - 4:30	Ventura	Bruce Cheney	sce.com/energycenters
March 6 • 8:30 - 4:30	San Diego	Bruce Cheney	seminars.sdge.com
May 1 • 8:30 - 4:30	San Diego	Bruce Cheney	seminars.sdge.com
September 4 • 8:30 - 4:30	San Diego	Bruce Cheney	seminars.sdge.com
October 15 • 8:30 - 4:30	San Diego	Bruce Cheney	seminars.sdge.com
November 28 • 8:30 - 4:30	San Diego	Bruce Cheney	seminars.sdge.com

<b>Nonresidential Standards for Plans Examiners and Building Inspectors</b> ★			
February 21 • 8:30 - 4:30	San Diego	Bruce Cheney	seminars.sdge.com
February 27 • 8:30 - 4:30	Glendale	Bruce Cheney	sce.com/energycenters
March 14 • 8:30 - 4:30	Oxnard	Bruce Cheney	sce.com/energycenters
April 23 • 8:30 - 4:30	San Diego	Bruce Cheney	seminars.sdge.com
August 28 • 8:30 - 4:30	San Diego	Bruce Cheney	seminars.sdge.com
October 8 • 8:30 - 4:30	San Diego	Bruce Cheney	seminars.sdge.com

<b>Standards &amp; Technology for Nonresidential Lighting</b> ★			
March 20 • 8:30 - 4:30	San Diego	Gina Rodda	seminars.sdge.com

<b>Nonresidential Standards for Architects</b> ★			
March 19 • 8:30 - 4:30	San Diego	Gina Rodda	seminars.sdge.com

<b>Nonresidential Standards for Small Commercial AC Quality Installation Contractors</b> ★			
March 27 • 11:30 - 12:45	El Cajon	Bruce Cheney	858-254-1189

<b>Residential Standards for AC Quality Installation Contractors</b> ★			
March 20 • 11:30 - 12:45	El Cajon	Bruce Cheney	858-254-1189

<b>Where We're Headed With the Residential Standards</b> ★			
March 12 • 11:30 - 12:45	San Diego	Martyn Dodd	seminars.sdge.com
June 4 • 11:30 - 12:45	San Diego	Martyn Dodd	seminars.sdge.com
October 1 • 11:30 - 12:45	San Diego	Martyn Dodd	seminars.sdge.com
November 20 • 11:30 - 12:45	San Diego	Martyn Dodd	seminars.sdge.com

<b>Where We're Headed With the Nonresidential Standards</b> ★			
March 12 • 8:30 - 10:45	San Diego	Martyn Dodd	seminars.sdge.com
June 4 • 8:30 - 10:45	San Diego	Martyn Dodd	seminars.sdge.com
October 1 • 8:30 - 10:45	San Diego	Martyn Dodd	seminars.sdge.com
November 20 • 8:30 - 10:45	San Diego	Martyn Dodd	seminars.sdge.com

<b>Nonresidential CEA Exam Preparation Workshop</b> ★			
February 22 • 8:30 - 4:30	Stockton	Brian Selby	pge.com/energyclasses
March 1 • 8:30 - 4:30	Irwindale	Brian Selby	sce.com/energycenters
April 25 • 8:30 - 4:30	Pacific Grove	Gina Rodda	cabec.org

<b>Residential CEA Exam Preparation Workshop</b> ★			
February 28 • 8:30 - 4:30	Irwindale	Brian Selby	sce.com/energycenters
April 25 • 8:30 - 4:30	Pacific Grove	Brian Selby	cabec.org

## Software Training

DATE • TIME	LOCATION	INSTRUCTOR	REGISTRATION
<b>Beginning EnergyPro - Residential</b> ★			
March 13 • 1:00 - 4:00	San Diego	Martyn Dodd	seminars.sdge.com
October 2 • 8:30 - 12:00	San Diego	Martyn Dodd	seminars.sdge.com
<b>Advanced EnergyPro - Residential</b> ★			
June 5 • 1:00 - 4:00	San Diego	Martyn Dodd	seminars.sdge.com
<b>Beginning EnergyPro - Nonresidential</b> ★			
March 13 • 8:30 - 12:00	San Diego	Martyn Dodd	seminars.sdge.com
October 2 • 8:30 - 12:00	San Diego	Martyn Dodd	seminars.sdge.com
<b>Advanced EnergyPro - Nonresidential</b> ★			
June 5 • 8:30 - 12:00	San Diego	Martyn Dodd	seminars.sdge.com
<b>CBECC-COM Software for the 2016 Title 24 Energy Code – Introduction and Simplified (2D) Geometry</b> ★			
May 7 • 8:30 - 4:30	Irwindale	Gus Wirth	sce.com/energycenters
November 6 • 8:30 - 4:30	Irwindale	Gus Wirth	sce.com/energycenters



Delivered online in real-time by an instructor.  
Check [EnergyCodeAce.com](http://EnergyCodeAce.com) for registration information.

DATE • TIME	LOCATION	INSTRUCTOR
<b>Introduction to Nonresidential Modeling</b> ★		
March 11 • 9:00 - 12:00	Online	Martyn Dodd
May 24 • 9:00 - 12:00		
July 15 • 9:00 - 12:00		
November 25 • 9:00 - 12:00		

<b>Introduction to Residential Modeling</b> ★		
April 8 • 9:00 - 12:00	Online	Martyn Dodd
September 9 • 9:00 - 12:00		
October 28 • 9:00 - 12:00		

Delivered online in real-time by an instructor. Classes are delivered in 3 parts, 1 each day in a series. Check [EnergyCodeAce.com](http://EnergyCodeAce.com) for registration information.

DATE • TIME	LOCATION	INSTRUCTOR
<b>Nonresidential Modeling</b> ★		
March 5 - 7 • 9:00 - 12:00	Online	Martyn Dodd & Ted Tiffany
May 14 - 16 • 9:00 - 12:00		
September 10 - 12 • 9:00 - 12:00		
October 29 - 31 • 9:00 - 12:00		

<b>Nonresidential Standards for Energy Consultants</b> ★		
March 26 - 28 • 9:00 - 12:00	Online	Brian Selby
June 18 - 20 • 9:00 - 12:00		
August 20 - 22 • 9:00 - 12:00		
October 15 - 17 • 9:00 - 12:00		

<b>Residential Modeling</b> ★		
April 16 - 18 • 9:00 - 12:00	Online	Martyn Dodd & Ted Tiffany
June 11 - 13 • 9:00 - 12:00		
October 8 - 10 • 9:00 - 12:00		
December 3 - 5 • 9:00 - 12:00		

<b>Residential Standards for Energy Consultants</b> ★		
July 16 - 18 • 9:00 - 12:00	Online	Brian Selby
September 17 - 19 • 9:00 - 12:00		
November 5 - 7 • 9:00 - 12:00		

Virtual workshops: “roll-up-your-sleeves” interactive sessions delivered online in real-time by an instructor. Check [EnergyCodeAce.com](http://EnergyCodeAce.com) for registration information.

DATE • TIME	LOCATION	INSTRUCTOR
<b>Analyzing the CF1R</b> ★		
April 19 • 9:00 - 12:00	Online	Martyn Dodd
September 27 • 9:00 - 12:00		
December 6 • 9:00 - 12:00		
October 15 • 9:00 - 12:00		

<b>Residential Envelope and Solar Systems</b> ★		
May 13 • 9:00 - 12:00	Online	Luke Morton
August 5 • 9:00 - 12:00		
October 7 • 9:00 - 12:00		
December 9 • 9:00 - 12:00		

<b>Residential Mechanical Systems</b> ★		
April 1 • 9:00 - 12:00	Online	Chandra Apperson
June 3 • 9:00 - 12:00		
August 19 • 9:00 - 12:00		
November 18 • 9:00 - 12:00		

<b>Residential Modeling Tips</b> ★		
February 22 • 9:00 - 12:00	Online	Martyn Dodd
May 6 • 9:00 - 12:00		
August 12 • 9:00 - 12:00		
October 21 • 9:00 - 12:00		

Delivered online in real-time by an instructor.  
Check [EnergyCodeAce.com](http://EnergyCodeAce.com) for information and register at [pge.com/energyclasses](http://pge.com/energyclasses).

DATE • TIME	LOCATION	INSTRUCTOR
<b>2019 Title 24: Where We're Headed With the Nonresidential Standards</b>		
May 17 • 9:00 - 11:30	Online	Martyn Dodd
September 13 • 9:00 - 11:30		
December 3 • 9:00 - 11:30		

<b>2019 Title 24: Where We're Headed With the Residential Standards</b>		
May 17 • 1:00 - 2:30	Online	Martyn Dodd
September 13 • 1:00 - 2:30		
December 13 • 1:00 - 2:30		

- Dynamic Nonresidential Compliance Forms
- Residential & Nonresidential Energy Efficiency Concepts ★
- Residential & Nonresidential HERS ★
- Residential Standards for AC Quality Installation Contractors ★
- Residential Standards & Technology for Lighting ★
- Residential Standards for Ventilation ★
- Residential Standards & Technology for Building Envelope ★
- Residential Standards & Technology for Solar Systems ★
- Residential Standards & Technology for Heating, Ventilation & Air Conditioning ★
- Residential Standards & Technology for Water Heating ★
- Nonresidential Lighting Wheel
- Nonresidential Standards & Technology for Indoor Lighting Mandatory Measures ★
- Nonresidential Standards & Technology for Indoor Lighting Prescriptive Compliance ★
- Title 20 Essentials: The Water-Energy Nexus ★

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## Decoding Talks™

Facilitated online discussion forums for building department personnel and other industry professionals.

- Decoding 2016 Energy Standards: Let's Talk How to Navigate
- Decoding 2016 Envelopes: Let's Talk Res & Nonres High Performance Walls and Attics
- Decoding 2016 Forms: Let's Talk About the NEW NRCC-LTI-E
- Decoding 2016 HERS: Let's Talk Residential and Nonresidential HERS Measures
- Decoding 2016 HVAC: Let's Talk Mechanical Acceptance Testing
- Decoding 2016 Title 24, Part 6: Let's Talk About What's New
- Decoding 2016 Title 24, Part 6: Let's Talk Energy Code Resources
- Decoding 2016 Title 24, Part 6: Let's Talk Nonresidential Lighting
- Decoding ADUs: Let's Talk Recent Changes
- Decoding Attics and Walls: Let's Talk 2016 High Performance Requirements
- Decoding CBECC-Com: Let's Talk about the New NRCC-PRF Form
- Decoding CBECC-Com: Let's Talk Energy Pro and Nonresidential 2D Modeling
- Decoding CBECC-Com: Let's Talk IESVE and Nonresidential 3D Modeling
- Decoding Comfort: Let's Talk HVAC Impacts on Residential Comfort
- Decoding CXR: Let's Talk Nonresidential Commissioning Under Title 24, Part 6
- Decoding Electrical Distribution: Let's Talk Title 24, Part 6 Section 130.5
- Decoding Forms: Let's Talk Res & Nonres 2013 Energy Compliance Forms
- Decoding HERS: Let's Talk Res & Nonres HERS Measures
- Decoding Multifamily: Let's Talk Low Rise and High Rise Multifamily
- Decoding QII: Let's Talk HERS Quality Insulation Installation
- Decoding Recovery: Let's Talk Residential Rebuilding
- Decoding Renewables: Let's Talk PV, Solar & Energy Compliance
- Decoding Residential Compliance: Let's Talk About Design to Construction
- Decoding Residential Lighting: Let's Talk Title 24, Part 6 Requirements

Go to [EnergyCodeAce.com](http://EnergyCodeAce.com) for upcoming topics, dates, times and to view recorded past events.



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## On-Demand Video™

Our new Title 20 Appliance Efficiency curriculum focuses on the essentials industry professionals and consumers need to know to use the California Energy Commission's Modernized Appliance Efficiency Database System (MAEDBS). Access our video trainings on the following topics at:

**[energycodeace.com/content/title-20-ondemand](http://energycodeace.com/content/title-20-ondemand)**

- Title 20 Essentials: Making the Most of On-Demand Video Training
- Title 20 Essentials: Why Certification Matters
- Title 20 Essentials: Using MAEDBS for Manufacturers
- Title 20 Essentials: Using MAEDBS for Third Party Certifiers
- Title 20 Essentials: Using MAEDBS for Test Laboratories
- Title 20 Essentials: California Appliance Standards for Retailers, Distributors, Contractors, and Importers



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## Code & Coffee™

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- Code & Coffee with Brian - Residential Modeling: Simple New Construction Project
- Code & Coffee with Brian - Residential Modeling: Simple New Construction Project, Part 2: Shading
- Coffee & Code with Brian – Residential Modeling: Simple New Construction Project, Part 3: Advanced HVAC & DHW Systems
- Code & Coffee: Nonresidential Lighting - Indoor Lighting Wheel Overview
- Coffee & Code with Brian – Residential Modeling: Accessory Dwelling Units (ADU), Part 1: Newly Conditioned Detached ADU
- Code & Coffee with Brian: Residential Modeling – Accessory Dwelling Units (ADU), Part 2: Newly Conditioned Attached ADU
- Code & Coffee: Residential Modeling – Existing + Addition + Alteration Project
- Code & Coffee: Residential Modeling – Townhome Project
- Code & Coffee: Residential Modeling – Townhome Project, Part 2
- Code & Coffee: Residential Modeling – Two-story Simple New Construction Project

Go to [EnergyCodeAce.com](http://EnergyCodeAce.com) for upcoming topics, dates, times and to view recorded past events.



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